



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

sandstones by interstitial growth. He favors the view that the quartzites are of early age, the probable equivalents of the Mankato and Baraboo quartzites.

Professor Norton introduces his discussion by a statement of the theory of artesian wells and their requisite conditions. He then describes the conditions of the Iowa field, discussing the geological structure, the area of supply, the reservoir and the conditions of transmission. This is followed by a description of the wells classified by sections. Under the head of chemistry of the waters he treats of the mineral ingredients, of the interpretation of analyses, and of the classification based on these; and also of the therapeutic, sanitary, and industrial qualities of the waters. He also touches upon the questions of public supply, of cost, of purity and of practical matters relative to drilling, thus giving to the report much popular as well as scientific interest.

The paper of Mr. Bain embraces a special study of the relations of the two drift sheets found in the vicinity of the capital. After a careful statement of the history of investigations, he describes, critically, the Des Moines lobe of the Wisconsin drift as it appears in Pope, Dallas, and Guthrie counties, and follows this by a similar critical discussion of the characteristics of the older drift which underlies it, and occupies the region lying to the south. An important feature of the paper is the discussion of time ratios as indicated by erosive and other phenomena. From the computation of special cases selected as being best suited to the purpose, he reaches the conclusion that the time ratio between the Wisconsin and the Kansan ranges from 1:10 to 1:15, being probably nearer the latter than the former.

The Iowa survey is to be congratulated upon the excellence of this report.

T. C. C.

---

*Geology and Natural Resources of Indiana; Twenty-first Annual Report.* By W. S. BLATCHLEY, State Geologist. Indianapolis, 1897.

This report of 718 pages embraces "An Introduction" and "The Natural Resources of Indiana," by W. S. Blatchley; "The Petroleum Industry in Indiana," by the same; "The Composition of Indiana Coals," by W. A. Noyes; "Some Notes on the Black Slate or Genessee Shale of New Albany," by Hans Duden; "The Indiana Caves and their Fauna," by W. S. Blatchley; "A Report on the Geology of the Middle

and Upper Silurian Rocks of Clark, Jefferson, Ripley, Jennings and Southern Decatur Counties," by August F. Foerste; "The Bedford Oölitic Limestone of Indiana," by T. C. Hopkins and C. E. Sieben-thal; "The Report of the State Natural Gas Supervisor," by J. C. Leach; "The Report of the State Inspector of Mines," by Robert Fisher; "The Report of the State Supervisor of Oils," by C. F. Hall; "The Geology of Vigo County," by J. T. Scoville; and "A Catalogue of the Ferns and Flowering Plants of Vigo County," by W. S. Blatchley.

The paper of the state geologist on the petroleum industry of Indiana treats of the geographical and geological distribution of petroleum, of its origin, and the physical and chemical properties of the Indiana petroleum. He describes the oil fields by counties, introducing local details. The report closes with a chapter of a practical and economical character relating to the choosing of a locality for operating, the locating, drilling, and shooting of the wells, and their cost, accompanied by statistics with regard to the Indiana oil production.

Mr. Noyes gives the results of the twenty-seven analyses of coals, with an interpretation of results and a comparison of the coals.

The Notes on the Genessee Shale of New Albany, embrace chemical analyses, a statement of the previous experiments in utilizing the shale, and of new methods proposed by Mr. Duden, together with a discussion of the source of the bitumen embraced in the shales. The paper is accompanied by a description of some of the fossil plants discovered.

The discussion of the Indiana caves by the state geologist embraces descriptions of eighteen caves located in Owen, Monroe, Lawrence, Washington, and Crawford counties, accompanied by maps and photographic illustrations. This is supplemented by a description of the fauna of the caves, embracing mammals, batrachians, fishes, insects, and crustaceans, the descriptions being by W. S. Blatchley, J. M. Aldrich, Mary Murtfeldt, H. F. Wickham, and W. P. Hay.

In his discussion of the geology of the Middle and Upper Silurian rocks of the southeastern counties of Indiana, Dr. Foerste subdivides the formations for the purpose of more exact and refined study, as follows in descending order: The Niagara, into (1) the Louisville limestone or Utica lime rock, (2) the Waldron shale, (3) the Laurel limestone or Cliff rock, (4) the Osgood or cystidian beds, divided in places into (*a*) the Upper Osgood clay, (*b*) the Osgood limestone, (*c*) the Lower Osgood Clay. The Clinton group he does not subdivide.

The Cincinnati group he divides into (1) the Madison beds and their northern equivalents, (2) the richly fossiliferous shales and limestones below the Madison beds, (3) the Gastropod or Marvel Hill beds, and (4) a great section below not studied. The author enters into detail in the discussion of these formations and their special features in the more important localities, in the course of which the fossil contents receive special attention.

The discussion of the Bedford Oölitic limestone by Hopkins and Siebenthal is introduced by a discussion of the general geographical and stratigraphical features of the formation and associated strata. The body of the report embraces a discussion of the structural and economic features of the Bedford limestone, a discussion fully warranted by the very extensive use of the limestone as a building material. The treatment covers the results of both physical and chemical tests, and embraces the determination of the strength of the rock in various attitudes, its elasticity, absorption, resistance to fire and to water, its workability and accessibility. A chapter is devoted to the commercial features of the formation embracing the quarrying, handling of the stone, methods of work, machinery used, uses and adaptabilities of the stone, its transportation facilities, statistics of production, etc., which is followed by local descriptions. The discussion is closed by a classification of oölitic limestones.

The reports of the supervisors of gas, of mines, and of oil, embrace statistical and economic matter of value to those interested in these industries.

Dr. Scoville's "Geology of Vigo County" embraces the general topography and stratigraphy of the region, the ancient channels which cross the territory, but are now buried by the glacial deposits, the Pleistocene glacier of Vigo county, and the recent geology, embracing the soils and archæology.

The report has the same general form as preceding annual reports, but is more fully and better illustrated. T. C. C.

---

*Geological Survey of Alabama, Eugene Allen Smith, State Geologist.*  
*Report on the Valley Regions. Part II, On the Coosa Valley.*  
By HENRY MCCALLEY, Assistant State Geologist.

In this report the physical features of the Coosa Valley Region are classified into natural divisions, consisting of (1) broad, flat-topped